

2007 Betsy Lehman Patient Safety Recognition Award

Cooley Dickinson Hospital



Commissioner Jonh Auerbach, Mrs. Mildred Lehman, Daniel Barrieau, RRT, CPFT Director Respiratory Therapy and Linda Riley, Med, RN, BC Infection Prevention Coordinator

Cooley Dickinson Hospital has put before itself the goal of “zero defects” which includes **eliminating** hospital-associated infections. This is not one initiative but rather a shift in the culture of the entire organization. Leadership at the hospital has established the expectation that “Every Patient, Every Day” will receive 100% of best practice care. (99% of best practice is not good enough.) Utilizing best practices is one component of the journey to eliminate defects such as pressure ulcers, patient falls, and hospital-associated infections. **No patient** should acquire any defect or error as a result of receiving health care.

Cooley Dickinson Hospital has demonstrated that hospital-associated infections can be eliminated. We achieved 967 days between central line associated blood-stream infections in the CCU and as many as 479 days between ventilator-associated pneumonias. Every month there are no infections reinforces for staff that prevention **IS** possible. As “belief” that it is possible and pride in success build, the incidence of even

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one infection becomes a cause for intense investigation and follow-up actions. Simply stated, “We do not want this to happen again!”

While Cooley Dickinson Hospital (CDH) has not completely eliminated all hospital-associated infections we have made significant progress and will continue to advance the current achievements. To reflect the new expectation the name of the staff and department coordinating this work were changed from Infection “Control” to Infection “Prevention”—CDH is no longer seeking to control infections, we want them prevented! We now measure infection rates by “days since last” and only the Infection Prevention Committee reviews benchmarks and traditional infection rates. Benchmarking is useful to see how we compare to other hospitals but can also lull us into complacency rather than energizing us to aggressively seek to eradicate hospital-associated infection and other defects.

Staff on patient care units can best relate to days since last statistics and raw numbers of infections. While raw numbers are not useful for comparisons they are helpful in putting a “face” to each infection. Staff know that the one infection last month was Mr. Smith and they know what impact that infection had on his hospitalization and perhaps his life. They explore together who we might have done to prevent Mr. Smith from getting that infection.

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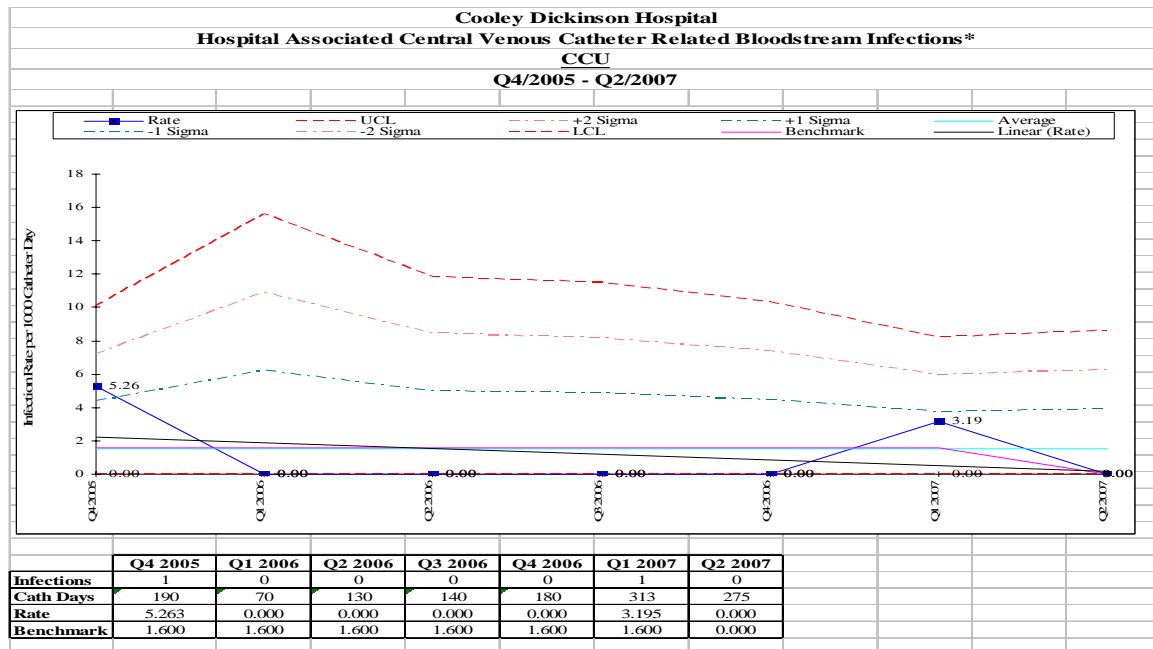
Two areas of particular focus have been the prevention of central line associated blood stream infections and ventilator associated pneumonias in the CCU.

In 2002 CDH recognized an increase in central line associated blood stream infections (CLBSI) in the critical care unit. The literature was reviewed and best practices implemented. Within a year the trend was reversed and there were no hospital associated CLBSIs for 967 days!

When the Institute for Healthcare Improvement (IHI) launched the 100,000 Lives Campaign, CDH took the opportunity to review current practice in comparison to the recommended bundle and some further improvements were instituted. A standardized kit was created for central line insertions which ensured that the proper equipment would be utilized, the CCU daily rounds sheet was revised to ensure that every day the need for the central line would be questioned by the interdisciplinary team and larger patient drapes were obtained.

The implementation of the CLBSI prevention bundle resulted in a significant decrease in infections with 967 days between infections from February 7, 2003 and October 2, 2005. This was followed by 470 days between infections (infection January 15, 2007) and we are currently counting the days with a goal of exceeding the 470 days. It is also important to note that there has been a significant increase in the number of central line days in the CCU due to the implementation of a hospital intensivist program and resulting increase in the acuity of our patient population.

The current rolling 12 month rate of 1.10 infections/1000 catheter days is less than the upper quartile performance per NNIS of 1.60. The control chart and data below provide further detail of sustained improvement.



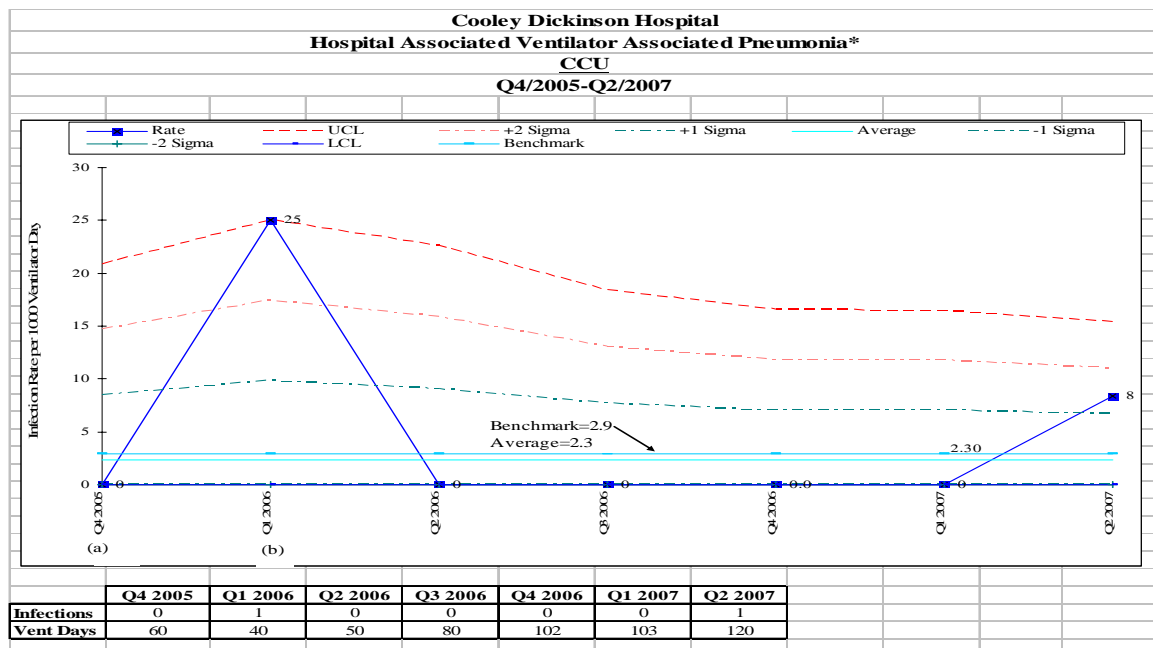
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Ventilator associated pneumonia (VAP) has likewise been a focus of the infection prevention program. The components of the IHI VAP bundle were implemented in 2004 but not as consistently as we would have liked. Participation in the 100,000 Lives Campaign caused CDH to revisit its compliance with these best practices. The components were integrated into the CCU's daily interdisciplinary rounds process and documentation which serves as the method to track compliance with the bundle.

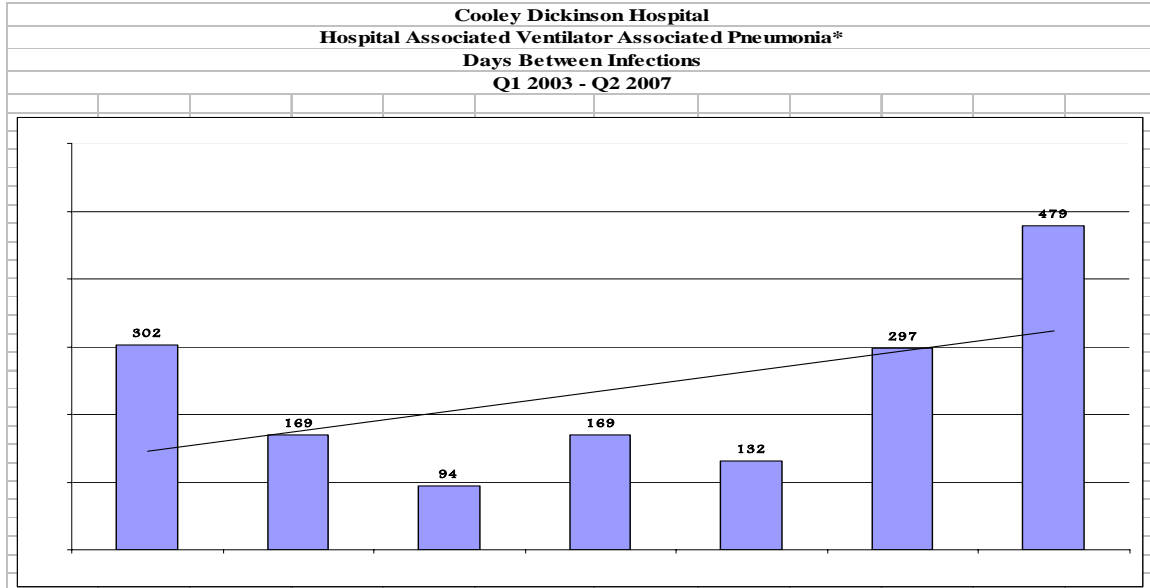
CDH conducts a mini-root cause analysis on each VAP and CCU and respiratory therapy staff are constantly seeking best practices that could further decrease patients' risk. One example of this was the implementation of new equipment allow continuous subglottic suctioning for all ventilated patients, other than those expected to be extubated immediately after surgery. Staff were amazed at the amount of secretions that would have gone into the patient's lungs in just one eight hour shift had the suctioning not been present.

Currently, CDH is prepared to change both supplies and processes so that we can avoid the need to break the ventilator circuit thereby further decreasing the opportunity for infection.

The outcomes of this initiative to prevent VAPs are evidenced by the increasing days since last infection. We achieved 479 days most recently despite more than a 100% increase in the number of ventilator days and increased acuity of patients during this same time period. Additionally, the rolling twelve month rate of 2.20 VAPs/1000 vent days is lower than the upper quartile benchmark from NNIS of 2.9. The following charts further demonstrate the decrease in the number of infections.



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In each of these improvement initiatives all disciplines have been involved in planning and implementing changes. Critical to success has been engaging front-line staff in finding ways to implement best practices but more importantly setting the expectation that we **will** eliminate these hospital associated infections. This has led to staff's ongoing search for equipment and processes to decrease the risk of infection. Our approach is not one in which managers decide what improvements need to be made, rather it's one of collaboration among disciplines, among management and front-line staff and supported by senior leaders.

Education and training is critical to the ongoing advancement of our goals. Much education and peer and management coaching was necessary as best practices were implemented. Today our biggest challenge is the need to assist new employees and providers to understand the expectation that CDH patients will have **NO** hospital associated infections. We find that it often takes as much as six months before they understand and incorporate into their practice the level of diligence needed to achieve this outcome. Education is experienced-based and includes numerous activities designed to demonstrate how bacteria are easily spread, even with what seems to be appropriate attention to prevention.

Consumer and public education is focused in two areas. We work with the local news media to educate the public about hospital associated infections and CDH's intention to prevent them from occurring. We recently assisted the local newspaper in developing an educational article regarding the prevention of transmission of MRSA. Secondly, but perhaps most importantly, we educate our patients and their families about hospital associated infections and ask that they help our caregivers be accountable to aggressive

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hand hygiene. Through buttons that staff wear and signage, patients are requested to “Ask me if I’ve cleaned my hands”. Additionally volunteer patient representatives visit patients throughout their stay and ask the patients how well we have utilized hand hygiene practices and educate them about what to expect and require of our staff. We also have signage asking families to practice good hand hygiene when visiting patients

Finally, Cooley Dickinson Hospital is a mentor hospital for both of these practices through the Institute for Healthcare Improvement. We frequently respond to requests for forms, information and even telephone consultations with other hospitals across the country. The most challenging aspect of trying to share our learning is to help organizations see that the effort to eliminate hospital associated infections is not just about applying a bundle of best practices. Equally as important is establishing the expectation that zero infections can and will be achieved. We believe that both components are critical to success.

The combination of leadership direction, staff engagement and relentless focus has enabled Cooley Dickinson Hospital to make significant progress in its quest to eradicate hospital associated infections. This is an effort that is really about transforming the culture of our organization to eliminate not only infections but all types of harm to patients.